Paper No. 39

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte KAI BOEGE, MICHAEL DZIALLAS,
KLAUS HELPENSTEIN, WOLFGANG KLAUCK,
JOHANN KLEIN, HELMUT LOTH, HARTMUT URBATH
and UDO WINDHOEVEL

Appeal No. 2003-0891
Application 09/011,614

ON BRIEF

Before WARREN, DELMENDO and PAWLIKOWSKI, *Administrative Patent Judges*.

WARREN, *Administrative Patent Judge*.

Decision on Appeal

This is an appeal under 35 U.S.C. § 134 from the decision of the examiner finally rejecting claims 11, 12 and 14 through 34, which are all of the claims in the applications. Claim 11, as it stands of record,[1] is illustrative of the claims on appeal:

11. An aqueous dispersion, liquid or spreadable at 20°C, and useful as a binder, sealing or coating composition, consisting essentially of water, a homopolymer or copolymer of styrene, a fatty compound, wherein a ratio by weight of the styrene polymer or styrene copolymer to fatty compound is from 100:0.5 to 100:15 wherein said fatty compound comprises at least one member selected from the group consisting of fatty acids, fatty alcohols, and derivatives thereof, wherein the fatty acids and fatty alcohols contain an aliphatic group having more than 12 carbon

[1] *See* the amendment of October 10, 2001 (Paper No. 25), and the examiner's answer (page 3).

atoms and, optionally a member selected from the group consisting of antioxidants, pigments, fillers, preservatives, defoamers, film forming agents, fragrances, adhesion promoters, solvents, dyes, flameproofing agents, flow controllers, resins, tackifiers, viscosity regulators, dispersion aids, emulsifiers and mixtures thereof, and wherein said aqueous dispersion has a solids content of 20% to 85% by weight and the dried aqueous dispersion is non-staining when stored between sheets of silicone paper for three weeks at 60°C.

The appealed claims, as represented by claim 11, are drawn to an aqueous dispersion that is liquid or spreadable at 20°C and useful as a binder, sealing or coating composition, and consisting essentially of at least a homopolymer or copolymer of styrene in a ratio of from 100:0.5 to 100:15 of a fatty compound comprises at least one member selected from the group consisting of fatty acids, fatty alcohols, and derivatives thereof, and optionally one of the specified ingredients, the dispersion having a solids content of 20% to 85% by weight and the dried aqueous dispersion is non-staining when stored between sheets of silicone paper for three weeks at 60°C.

The references relied on by the examiner are:

Motier et al. (Motier)	3,862,067	Jan. 21, 1975
Imagawa	5,004,763	Apr. 2, 1991

The examiner has rejected appealed claims 11, 12 and 14 through 20 and 22 through 29 under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as being obvious over Imagawa, and appealed claims 30 through 34 under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as being obvious over Motier.[2]

Appellants state in the brief that "[e]ach of the claims must be considered individually" (page 6). Thus, we decide this appeal based on the appealed claims. 37 CFR § 1.192(c)(7) (2002).

We affirm the ground of rejection of appealed claims 11, 14 through 20 and 22 through 29 under 35 U.S.C. § 103(a), and we reverse all other grounds of rejection.

We refer to the examiner's answer and to appellants' brief and reply brief for a complete exposition of the opposing positions advanced on appeal.

Opinion

[2] The examiner did not advance on appeal the ground of rejection under 35 U.S.C. § 112, second paragraph, set forth in the final rejection of December 31, 2001 (Paper No. 26, page 2).

In order to review the grounds of rejection advanced on appeal with respect to appealed claims 11, 12 and 14 through 29, we first find that, when considered in light of the written description in the specification as interpreted by one of ordinary skill in this art, *see, e.g., In re Hyatt, 2*11 F.3d 1367, 1372, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000); *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997), *In re Zletz*, 893 F.2d 319**,** 321-22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989), the plain language of appealed claim 11 specifies an aqueous dispersion wherein the aqueous dispersion consists essentially of at least a homopolymer or copolymer of styrene in a ratio of from 100:0.5 to 100:15 of a fatty compound comprises at least one member selected from the group consisting of fatty acids, fatty alcohols, and *unspecified* derivatives thereof which contain an aliphatic group of 13 or more carbon atoms, and optionally one of such specified ingredients. While the amount of fatty compound(s) present is specified relative to the amount of homopolymer or copolymer(s) of styrene present, there is no express limitation with respect to the amount of the styrene compound(s) that must be present. There is also no express limitation on the amount of one or more of the specified optional ingredients that can be present, and indeed, other unlisted ingredients can be present in amounts permitted by the transitional phrase "consisting essentially of." However, an encompassed aqueous dispersion must be liquid or spreadable at 20°C, have a solids content of 20% to 85% by weight, is non-staining when dried and stored between sheets of silicone paper for three weeks at 60°C, and be useful to any extent as a binder, sealing or coating composition. Thus, for example, encompassed aqueous dispersions can consist essentially of such optional ingredients as "film forming agents" that would include any film forming polymer which would function with any of the other optional ingredients, such as pigments, dyes and fillers, to form coating compositions, and contain at least some amount, however small, of one or more styrene compounds and fatty compounds present within the specified ratio, to the extent that such compositions comply with the spreadable, solids content and dried staining requirements. Similarly, these optional ingredients and other optional ingredients, including any manner of "resins," can also function as binder, sealing or coating compositions at least to some extent which contain at least some amount, however small, of one or more styrene compounds and a fatty compound present within the specified ratio.

Thus, appealed independent claim 11 encompasses myriads of aqueous dispersions that contain varying amounts of one or more styrene compounds and fatty compounds within the specified ratio. Among the other claims considered here, appealed dependent claim 12 specifies that the homopolymer or copolymer of styrene contains at least 30% by weight of styrene or methyl styrene. Appealed dependent claim 20 is drawn to a process of bonding coating or sealing by applying a coating of the aqueous dispersion of claim 11 to a substrate, with the only other specified process step pertaining to "when the substrate is to be bonded." Appealed claim 21 dependent on claim 20, contains the same limitation set forth in appealed dependent claim 12. Appealed dependent claim 29, dependent on claim 20, specifies substrates, a number of which encompass impervious surfaces.[3]

Turning now to the grounds of rejection based on Imagawa, we first consider the ground of rejection under § 103(a) which is a separate consideration from the issue of anticipation. *See In re Spada*, 911 F.2d 705, 707 n.3, 15 USPQ2d 1655, 1657 n.3 (Fed. Cir. 1990). We have carefully reviewed the record on this appeal and based thereon find ourselves in agreement with the examiner that the claimed aqueous dispersions encompassed by appealed claims 11 and 14 through 20 and 22 through 29 would have been obvious over the teachings of Imagawa to one of ordinary skill in this art at the time the claimed invention was made.

As pointed out by the examiner, one of ordinary skill in this art following the teachings in Imagawa with respect to a water base erasable ink composition for impervious surfaces, and thus a coating composition, would find the same water, pigment, fatty compound and styrene compound, and other ingredients specified in the appealed claims, including dispersion aids, in

[3] Any further prosecution of the appealed claims before the examiner should include consideration of whether appealed claim 22 constitutes a substantial duplicate of appealed claim 20 because the recitation of the "fatty compound" appears to be the same as in appealed claim 1 on which claim 20 depends. In the event that these claims are held to be allowable, *see* Manual of Patent Examining Procedure § 706.03(K) Duplicate Claims (8th ed., Rev. 1, Feb. 2003). Also, consideration should be given to the issue of whether appealed claim 24 complies with 35 U.S.C. § 112, second paragraph, because appealed claim 11 on which this claim ultimately depends specifies that the fatty compound has at least 13 carbon atoms and thus any such compound would have a molecular weight of at least 156, and not a lower molecular weight as permitted by the range in claim 24.

amounts that would overlap or fall within the ratio of styrene compound to fatty compound and solids content specified in the appealed claims (e.g., col. 1, line 52, to col. 3, line 34, col. 3, lines 52 and 67, and col. 4, lines 7-8). With respect to the matter of the "stain test" limitation in appealed claim 11, Imagawa discloses that when the amount of the fatty compound "is too large, the resultant ink composition writes badly or it stains a writing surface" (col. 3, lines 17-23).

Accordingly, we agree with the examiner that *prima facie* one of ordinary skill in this art routinely following the teachings of Imagawa would have reasonably arrived at compositions falling within appealed claim 11 without recourse to appellants' disclosure. *See generally*, *Merck & Co., Inc. v. Biocraft Labs., Inc.*, 874 F.2d 804, 807, 10 USPQ2d 1843, 1845-46 (Fed. Cir. 1989) ("That the '813 patent discloses a multitude of effective combinations does not render any particular formulation less obvious. This is especially true because the claimed composition is used for the identical purpose."); *In re Lemin*, 332 F.2d 839, 841, 141 USPQ 814, 815-16 (CCPA 1964) ("Generally speaking there is nothing unobvious in choosing 'some' among 'many' indiscriminately."). With respect to appealed dependent claims 14 through 20 and 22 through 29, we find that *prima facie* Imagawa would have reasonably disclosed to one of ordinary skill in this art triglycerides of higher fatty acids (e.g., col. 2, line 61) as well as fatty compounds and styrene compounds within the specified molecular weight ranges, and fatty to styrene ratios as well as solids contents required by these claims. The aqueous dispersion ink compositions so disclosed are taught by the reference to be useful in a process of coating impervious substrates, which would include such substrates encompassed by appealed claims 20 and 29.

Accordingly, since a *prima facie* case of obviousness has been established over Imagawa, we have again evaluated all of the evidence of obviousness and nonobviousness based on the record as a whole, giving due consideration to the weight of appellants' arguments in the brief. *See generally, In re Johnson*, 747 F.2d 1456, 1460, 223 USPQ 1260, 1263 (Fed. Cir. 1984); *In re Piasecki*, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984).

Appellants submit that the rejection under § 103(a) over Imagawa is in error for three reasons. First, appellants contend that the fatty compound and the styrene compound "<u>are not</u> compatible and form two separate layers when applied to a substrate," thus causing "staining by

the composition," whereas in the claimed compositions, these two ingredients "are compatible and form a single layer which strongly adheres to the substrate" (brief, page 10; emphasis in original). In this respect, appellants point to the teaching in Imagawa that when the compositions therein are applied to an impervious writing surface and dried, a layer is formed by the fatty compound on the writing surface and a layer is formed by the styrene compound and ink thereon, such that the composition can be removed from the writing surface, that is, erasable, citing col. 6, lines 8-17, and col. 5, lines 44-45 (brief, page 8). We note a similar teaching at col. 3, lines 24-34. Appellants argue that the claimed composition is compatible, that is, it does not separate, and point out that the "stain test" limitation in the appealed claims encompasses this property. Apparently, because the compositions of Imagawa are taught to form separate layers, appellants conclude that such compositions would stain the silicone coated paper used in the "stain test" specified in appealed claim 11 (brief, pages 8-9).

Second, appellants contend that in the Imagawa Examples and claims, "the amount of oily substance is always greater than the amount of resin" which is contrary to the claimed ratio (brief, page 10). And, third, appellants offer the conclusion that "[t]he Imagawa composition is not useful for an adhesive, sealing compound or a long term coating since the bond strength between the dried composition and the substrate is not strong and is readily erasable by rubbing with a soft cloth" (*id.*).

We are unconvinced for a number of reasons. First, there is *no* claim limitation with respect to the compatibility of any of the multitudes of such ingredients in any amount that can be present in the claimed compositions as we interpreted appealed claim 11 and claims 14 through 20 and 22 through 29 dependent thereon above, and the layers of such ingredients that may form after the composition is prepared. Indeed, as disclosed at page 11 of appellants' specification, the purpose of the "stain test" is to determine "migration of the plasticizer," apparently from the vicinity of the styrene polymer, and may provide statistically reliable results if the fatty compound and the styrene polymer at the specified ratio are indeed the major constituent solids in the aqueous dispersion. Such dispersions are encompassed within the appealed claims, but with other encompassed dispersions, the amount of styrene polymer and fatty compounds at the specified ratio would not constitute the major component of the dispersion or indeed, the affects

of the "stain test" would be masked with false positives or negatives by other ingredients, such as pigments that can stain the silicone paper or dispersion aids or tackifiers that when dry, can stain in and of themselves or prevent staining of the silicon paper by the pigment or the fatty compound.

Thus, on this record, appellants' unsupported arguments and conclusions based on the "stain test" limitation and the manner in which the aqueous dispersions of Imagawa that would otherwise fall within the appealed claims, function in coating an impervious writing surface, are entitled to little, if any, weight. *See In re Payne*, 606 F.2d 303, 315, 203 USPQ 245, 256 (CCPA 1979); *In re Lindner*, 457 F.2d 506, 508, 173 USPQ 356, 358 (CCPA 1972). Indeed, appellants have not provided effective argument or objective evidence which *reliably* establishes that compositions of Imagawa that otherwise fall within the appealed claims would in fact provide a stain when subjected to the "stain test" set forth in appealed claim 11. To the contrary, appellants' contentions do not take into account the clear disclosure in Imagawa that the amount of the fatty compound is to be controlled to prevent staining of the impervious writing surface, which teaching we pointed out above. Thus, the reference teaches that amounts of the fatty compounds that cause staining of the impervious writing surface, which can include silicone paper that is encompassed by appealed claim 29, is to be avoided.

Second, while it is true that, as appellants contend, the Imagawa Examples disclose compositions that fall outside of the appealed claims because of the ratio of styrene compound to fatty compound, consideration of the reference is not limited to such disclosure. *See generally, Merck v. Biocraft*, 874 F.2d at 807, 10 USPQ2d at 1846, quoting *In re Lamberti*, 545 F.2d 747, 750, 192 USPQ 278, 280 (CCPA 1976) ("But in a section 103 inquiry, 'the fact that a specific [embodiment] is taught to be preferred is not controlling, since all disclosures of the prior art, including unpreferred embodiments, must be considered.'"). And, third, we find no effective argument or objective evidence in the record which *reliably* establishes that the aqueous dispersions of Imagawa would not provide "a long term coating since bond strength" because of the "bond strength" of the erasable composition. Indeed, appealed claims 11 and 20 require only that the composition can be applied as a coating to any extent, there being no claim limitation with respect to bond strength or the term of the coating because there is no identified facet of the

"stain test" that involves bond strength between the dried composition and the silicone paper. Thus, on this record, appellants' unsupported arguments and conclusions in this respect are entitled to little, if any, weight. *See Payne*, *supra*; *Lindner*, *supra*.

With respect to appealed claims 14 through 19 and 22 through 28 that were not considered above, we are not convinced by appellants' general arguments that the reference neither teaches nor suggests the embodiments of these claims in view of the teachings of Imagawa which we have discussed above. Furthermore, we are also not convinced by appellants' arguments with respect to bonding strength and staining made as to several of the dependent claims for the same reasons that we were not convinced by these same arguments above.

Accordingly, based on our consideration of the totality of the record before us, we have weighed the evidence of obviousness found in Imagawa with appellants' countervailing evidence of and argument for nonobviousness and conclude that the claimed invention encompassed by appealed claims 11, 14 through 20 and 22 through 29 would have been obvious as a matter of law under 35 U.S.C. § 103(a).

With respect to appealed claims 12 and 21, the examiner has not identified any teaching with respect to the styrene containing copolymers disclosed in the reference which would teach or suggest a copolymer of styrene that contains at least 30% by weight of styrene or methyl styrene as required by these claims. Thus, we reverse the ground of rejection of these claims under 35 U.S.C. § 103(a) over Imagawa.

Turning now to the ground of rejection of appealed claims 30 through 34 under 35 U.S.C. § 103(a) over Motier, these claims require that the copolymer of styrene must contain more than 80% by weight of styrene residues. Appellants contend that when the entirety of the styrene copolymer that actually is used in the composition as disclosed by the reference in col. 2, lines 38-47, is considered, the closest possible disclosure to these appealed claims results in a styrene copolymer that 'has a weight percent of styrene which is *less than 75%*" (brief, page 11; emphasis supplied). The examiner does not dispute appellants' calculations, contending that such a styrene copolymer is nonetheless encompassed by the claim language because Motier uses the approximating term "about" (answer, page 9). We find no basis in the record, including the examiner's arguments or in Motier, which would have led one of ordinary skill in this art to

either agree with the examiner's contention with respect to the use of the term "about' in the reference, or to adjust the styrene copolymer molecule taught by the reference to one falling within the appealed claims. *Cf. In re Sebek*, 465 F.2d 904, 907, 175 USPQ 93, 95 (CCPA 1972) ("Where, as here, the prior art disclosure suggests the outer limits of the range of suitable values, and that the optimum resides within that range, and where there are indications elsewhere that in fact the optimum should be sought within that range, the determination of optimum values outside that range may not be obvious."); *Titanium Metals Corp. v. Banner*, 778 F.2d 775,782-83, 227 USPQ 773, 779 (Fed. Cir. 1985). Accordingly, we reverse this ground of rejection.

The grounds of rejection 35 U.S.C. § 102(b) require that the examiner establish a *prima facie* case of anticipation in the first instance by pointing out where each and every element of the claimed invention, arranged as required by the claim, is described identically in a single applied reference, either expressly or under the principles of inherency, in a manner sufficient to have placed a person of ordinary skill in the art in possession thereof. *See generally, Spada*, 911 F.2d at 708, 15 USPQ2d at 1657. We could not conclude above that as a matter of law, the facts in Imagawa and Motier would have suggested the subject matter of appealed claims 12 and 21 and appealed claims 30 through 34, respectively to one of ordinary skill in this art, and thus cannot find as a matter of fact that these references would have described the subject matter encompassed by the respective claims to one of ordinary skill in this art under this statutory provision. We further cannot find that as a matter of fact the disclosure of Imagawa would have described the subject matter encompassed by appealed claims 11, 14 through 20 and 22 through 29 because one of ordinary skill in this art would have to pick and choice among the components and ranges disclosed in the reference to arrive at the claimed dispersions encompassed by these claims. *See In re Arkley*, 455 F.2d 586, 587, 172 USPQ 524, 526 (CCPA 1972). We note here that while we reach this determination with respect to § 102(b), Imagawa nonetheless applies under § 103(a). *See In re Wiggins*, 488 F.2d 538, 543, 179 USPQ 421, 425 (CCPA 1973) (a reference that does not anticipate the claimed invention under § 102(b) can still be applied thereto "as evidence of obviousness under § 103 for all it fairly suggests to one of ordinary skill in the art"). Accordingly, we reverse this ground of rejection.

In summary, we affirm the ground of rejection of appealed claims 11, 14 through 20 and 22 through 29 under 35 U.S.C. § 103(a) and reverse all other grounds of rejection.

The decision of the examiner is affirmed-in-part.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART

CHARLES F. WARREN Administrative Patent Judge	)	
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